

EXHIBIT CCC

TECH NOTES

OLAH AAEN

OLAH'S RACING MACHINE

Arctic's racing history is legend and a major part of how the boys at Thief River Falls have built the fierce brand loyalty that exists among their customers. Over the years, the arena has changed from cross country to oval racing, and now to the popular snocross format, but we have always seen a first class effort from the boys in green.



This year's season had several questions to be answered. Tucker Hibbert, the unquestionable star of Arctic the last three seasons, said goodbye to the team to concentrate on a career racing motocross bikes on the national and supercross circuit. Could the factory find new stars to carry the banner, and could they come up with a machine to match the newfound handling advantages of Ski-Doo's REV platform? Both questions were answered at the Duluth Supercross opener, as Kent Ipsen swept home first in the 440 Pro Stock class.

New Player Emerges

This immediate success is the result of a strong commitment from Arctic, despite a tightening of the economy, which normally would put a dampener on a racing budget. A strong new player has emerged, who with a new entrepreneurial spirit has actually managed to broaden the Arctic factory effort on the snocross circuit. This new player is Brad Olah. Olah is a successful businessman and inventor who has made good money inventing and promoting video gambling machines for the casino industry. His products include multi-station Blackjack, Craps and Roulette video systems. Brad Olah took his company public in 1993 and then sold a large interest to the casino industry. He still keeps his foot in the industry with some new projects, but his new challenge is snowmobile racing.

"Rider Forward" and forward thinking make up Cat's new machine.

He first got involved through his friend Gatt Gordon, sponsoring Gordon's efforts in drag racing and oval racing, including Jeremy Johnson and Chris Hortnes.

Being a part of Jeremy Johnson's winning effort in the 2001 Eagle River World Championship no doubt encouraged Olah's

interest in snowmobile racing, although he is careful to emphasize he was only a part-sponsor in Johnson's effort.

For the 2003 season, Olah and Gordon decided to switch to snocross racing, and this led to his contact with Arctic Cat's race effort. Olah now runs two of the three Arctic "A-Team" efforts. The two teams are the Woody-Olah Team run by Steve Thorsen and the Ryde FX-Leggett & Platt Team run by Brian Olson. The Woody-Olah team campaigns Kent Ipsen and Curtis Crapo, while Trevor John and Rob Malinoski run out of the Ryde FX trailer. Both teams have seen success, with Ipsen winning Duluth, and Malinoski winning every Semi-pro Open final so far this season. The third A-Team is the inside factory effort with Sean Crapo running out of Russ Ebert's trailer.

Three vs. One

Instead of a strong single team built around Tucker Hibbert, Arctic now has three strong A-teams hitting the WSA Snocross Pro Circuit. Olah's role has been as an entrepreneurial dealmaker together with the Arctic Factory. He does not get involved with the day-to-day technical development or running of the team. This is in very capable hands, he said, and functions on "cruise control" during the season. His role is to make sure the teams have the sponsors, the resources and the drivers to do the job. He attends all the

races. On Monday's they debrief to determine what's needed and he then sets out to make sure the teams get what they require. Olah spends the rest of the time taking care of the sponsor's needs, a crucial part in any professional race team operation, and an area that has been sadly neglected in the snowmobile racing industry over the years. This requires constant travel to corporate headquarters for meetings with top executives. By educating sponsors about snowmobile racing, they also put their product development teams to work for Arctic. As an example, Olah mentioned new magnesium products in development from Leggett & Platt, Arctic's biggest supplier of castings.

Rider Forward Chassis

A strong team structure and talented drivers are not enough; you also need a competitive machine, and Arctic has not rested on its laurels. With the success of Ski-Doo's REV "Driver Forward" position, Arctic knew it had to do a drastic redesign of its chassis.

Arctic's new "Rider Forward" position was accomplished by moving the steering stem forward of the engine. This allows the driver to move as much as 18 inches forward on the machine. The older "center mass" design with the layback engine had a tendency to tip the front end back on sharp jumps, but the new design has solved the problem. Some Arctic drivers struggled over jumps last season, while this year they take the big one's straight and true with renewed confidence. Last year's position made it possible to sit too far back for ideal balance, while this year the driver cannot get that far back. Instead he can now get much farther forward and put much needed weight on the skis, which has improved handling in the corners. While Arctic had the "center mass" program half right by moving the engine back, the package is now completed by also centering the greatest mass: the driver.

Suspension Package

The suspension package has also been much improved. The new Fox shocks have larger diameter bodies, far better dampening and improved fade-resistance. The shocks also have both adjustable compres-

sion and rebound dampening to suit any size driver, riding style and track condition. Double stage springs ensure correct rates over both smaller stutter bumps and big jumps.

The teams also have a number of skis to pick from according to the driver's preference, ranging from C&A to SLP models depending on track conditions.

In the rear, the slide rails have been reinforced in the center, and the rails are now laser cut instead of stamped out, a procedure that eliminates the stresses from the stamping procedure. The front bulkhead is "rolled" to move the drive axle further into the tunnel. This gives the driver more ground clearance and protects the axles from breaking if the driver bottoms out and "cases" the pan off a big jump.

The Arctic rear shock transfer system is now in its third generation redesign, and is maturing into a very dependable and effective system.

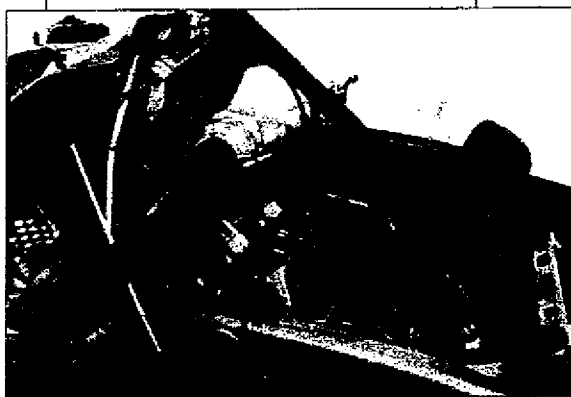
The front arm has to move out of the way quickly to prevent the rear end from "bucking" over sharp moguls. When the rear of the slide rail hits the mogul it tends to drive the front down, and the front arm then hits the next mogul extended, an undesirable situation. You might then clear the first mogul, just to "buck" harder on the second. To solve this problem, Arctic engineers coupled the front shock to the rear shock, and made the fluid transfer pull the front arm up into the chassis when the rear shock compressed, preventing the front arm from dropping and hitting the second mogul. The first generation attempts with this new concept resulted in a number of component failures, affecting results early in the 2001 season. As with anything this new, improvements were quickly made, and the second generation proved reliable. Yet, the calibration was not perfect, a certain amount of "bleed down" existed, resulting in the front arm dropping earlier than wanted. The 2004 system not only has bigger and much improved shocks, but the hydraulic linkage is now positive, with zero "bleed down."

Engine Updates

Engines have also seen some redesigns. The '04 440 Pro has a new cylinder with a conventional three port exhaust design. The previous twin port gave strong top end power, but was harder on pistons with its

single bridge as the only support. The triple port design has two bridges for support, improving living conditions for the pistons. Earlier designs had to take ISOC competition into consideration, where hauling top end across long lakes required high top end power. With the present emphasis on Snoecross, top end is seldom obtained, but a strong holeshot and hard acceleration out of corners is vital. Arctic engineers therefore redesigned the exhaust port layout, and the result is a 4 hp increase in bottom end and midrange power.

According to Steve Thorsen, manager of the Woody-Olah Team, they gained at least two sled lengths off the starting line.



which is huge in snoecross. Arctic's ignition also has a pipe warm-up feature to shorten up the warm up procedure in the pit, but this is not usually used on the starting line. The carbs on the 440 are presently cable operated 34 TMX Mikuni's. These units have very strong throttle response, and a venturi design that improves top end flow.

Fresh Approach To Open Class

The Open sled is a fresh new approach. In previous seasons, drivers had to put together their own Open sleds from aftermarket parts. This usually meant it took the driver the better part of the season to sort out the machine. This season, Arctic built 70 special Open machines using a combination of aftermarket parts. Special cylinders from Speedwerks brought the F7 motor up to the 800cc limit, and stronger Team Roller secondaries were used in the clutch area. Carbs were bored out versions of the 40 MM TM rack-mounted flat slides. Total power is said to be in the high 170 area. The racer received a sorted out package, ready to do battle from the first race.

The "Trick" Stuff

With three strong A-Teams, who runs next seasons trick new part? You would think the factory trailer has the trick stuff, but according to Arctic Racer Coordinator Al Shimpa, they are too busy making sure production components on customer race sleds are working as they should. Shimpa suggested the big experimenters are Speedwerks and Steve Thorsen's Woody-Olah Team. This makes sense when you consider Thorsen's long involvement with factory racing. He was a part of the Polaris factory team of the 1970s and won double Eagle River World Championship titles in 1976 and 1977. He then moved to Arctic's Scorpion Division Sno-Pro Team. When that was dissolved he ran Woody's Sno-Pro team in '79 and had a very strong season, so his association with Woody's Traction Products is long standing. He later formed Thorsen and Swartzwalter Racing (TSN) and has run factory development programs in different stages ever since.

When asked about trick parts for the new Arctic models, he said none were needed for the 440 this year. It is so good from the factory, he claimed, you hardly even have to re-jet it. The team did, however, build six special versions of the Open sled, incorporating a number of their own lightweight parts.

Brad Olah is not standing still with the success of his Sno-Cross teams. There are now plans to carry the concept forward to a full-blown ATV factory team. The ATV market is now a major part of business for all snowmobile manufacturers, and complements the operations well. Olah wants to take his racing business year-round. This will also give the racers year round competition. ATV's are closer to snowmobiles in driving styles than motocross bikes, and should provide a good place to keep in shape for the snow warriors. Olah has identified the (GNCC) Grand National Cross Country series as the battleground because they provide both utility and sport classes. With strong sponsorship and Olah's involvement, Arctic's racing "machine" is set to push the competition to the limit in both it's major market areas. **AS**